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(54) **DEVICE FOR FUSING THE ENDS OF THERMOPLASTIC FILAMENTS**

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(57) **ABSTRACT**

A method of fusing without contact the ends of thermoplastic filaments grouped together to form at least two tufts. The method steps include providing at least two tufts of thermoplastic filaments arranged at a distance to each other, providing a heating plate at least partly made from a conductive material and structured to have at least two heating sectors separated from one another by at least one separation sector arranged for emitting at least less thermal radiation than the heating sectors, each of the heating sectors having conductive material and a heating surface corresponding in shape and position to the shape and position of the ends of the tufts, exposing the ends of the tufts to the heating plate such that the tuft ends and the heating sectors are aligned with each other, and generating an electric-current flow through the heating sectors so that the heating surfaces of the heating sectors emit thermal radiation that is absorbed by the ends of the filaments, whereby the ends of the filaments melt and the filaments of each tuft are fused together.

22 Claims, 9 Drawing Sheets

